

Amendments to the Drawings:

Pursuant to 37 C.F.R. § 1.173, please replace FIG. 1 with Amended FIG. 1 appearing on the Replacement Sheet attached to this response. Please also add New FIG. 6 appearing on the New Sheet attached to this response.

REMARKS

This paper is filed to correct any inadvertent errors in previous amendments. All amendments in this case now fully comply with Rule 173.

A. The Figures

1. Explanation of Previous Amendments

On November 9, 2001, Applicant amended FIG. 1 in compliance with the relevant version of Rule 173¹ by submitting a sketch on a separate sheet of paper that showed the changes to FIG. 1 in red. In the November 9, 2001 preliminary amendment, Applicant provided a detailed explanation of the changes to FIG. 1 and the support for those changes, although such an explanation was not required by the relevant version of Rule 173. On February 20, 2002, Applicant filed a "Clarification to Preliminary Amendment" in which Applicant made one additional correction in red to FIG. 1.

The Office accepted Applicant's proposed changes to FIG. 1 in the February 17, 2004 Office Action with the understanding that Applicant would supply a new FIG. 1 that illustrated the retainer ring inserted into a groove in the retainer segments. Page 2. The Office also stated:

It is further noted that according to claims 4, 8 and 12 the drawings are objected to since these claims require the end connectors to be threaded however since they depend from claims with a retainer segments been claimed there appears to be no drawings showing the combination of claims 4 8 and 12 having both threaded end connectors and retainer segments.

¹ The version of Rule 173(b)(3) that existed when Applicant filed the November 9, 2001 preliminary amendment and the February 20, 2002 Clarification to the Preliminary Amendment reads: "Any change to the patent drawings must be submitted as a sketch on a separate paper showing the proposed changes in red for approval by the examiner. Upon approval by the examiner, new drawings in compliance with §1.84 including the approved changes must be filed. Amended figures must be identified as 'Amended,' and any added figure must be identified as 'New.' In the event that a figure is canceled, the figure must be surrounded by brackets and identified as 'Canceled.'"

February 17, 2004 Office Action at pages 2-3.

Applicant filed a response on May 14, 2004 that included an amended FIG. 1 on a Replacement Sheet. The amended FIG. 1 included the changes Applicant had provided in red on November 9, 2001 and February 20, 2002, and further included the change that made clear that the added retainer ring was in a groove in the retainer segments. Applicant also filed a new FIG. 6 on a New Sheet.

2. Explanation of Amendments in This Paper

Applicant provides a new Replacement Sheet containing FIG. 1 with this paper. In this Replacement Sheet, FIG. 1 bears the label "Amended" at the bottom of that figure. Applicant also provides a New Sheet containing FIG. 6, which bears the label "New."

As Applicant explained in the November 9, 2001 preliminary amendment, FIG. 1 has been changed to connect the lead lines from element numbers 30 and 32 with their correct locations. Element 30 is described at column 2, lines 21-28 of U.S.P.N. 5,791,693 (the '693 Patent) as a rearward shoulder that extends radially inwardly from the interior surface of nut 24. Unlike the original element 30 lead line, the corrected element 30 lead line clearly points to such a rearward shoulder. Element 32 is described at column 2, lines 21-28 of the '693 Patent as a forward shoulder that extends radially outwardly from the exterior surface of male sub 14 to prevent nut 24 from pulling off of pup joint 10 when nut 24 is threaded onto the female sub of another pup joint. Unlike the original element 32 lead line, the corrected element 32 lead line clearly points to such a forward shoulder.

FIG. 1 has also been changed to depict that there is a retainer ring in a groove in the retainer segments. Support for this change to FIG. 1 is found in the originally-filed FIG. 1, which depicts the retainer ring that was inadvertently left out of the formal drawings submitted on April

18, 1998. Furthermore, as Applicant explained in the December 8, 2003 response, in the inventor's opinion, anyone who is informed in the design and use of wing unions of the type depicted in FIG. 1 would understand that the prior art represented in FIG. 1 includes a snap ring positioned in a groove in the retainer segments 28. *See* December 8, 2003 Declaration of Paul Crawford Under 37 C.F.R. § 1.132 at ¶¶ 1-9 (a copy of which is enclosed).

The Office asserted that "there appears to be no drawings showing the combination of claims 4 8 and 12 having both threaded end connectors and retainer segments." The enclosed New Sheet containing "New" FIG. 6 shows the claimed retainer segments and male and female subs that are threaded onto a length of pipe. FIGS. 3 and 4, and the description of those figures in the '693 Patent, provides the support for new FIG. 6. For example, column 2, lines 48-51 of the '693 Patent refers to FIG. 3 and explains that male sub 114 and female sub 116 may be manufactured individually and then threaded onto the ends of pipe 112. This is shown in new FIG. 6. Furthermore, column 2, lines 61-62 of the '693 Patent refers to FIG. 4 and explains that nut 126 is retained on pup joint 110 by means of one or more retainer segments 130. These retainer segments are also shown in FIG. 6. The additional features depicted and labeled in FIG. 6 are shown in FIGS. 3 and 4 and described in the '693 Patent within column 2, line 45 to column 3, line 25. It is appropriate to combine the features of the pup joints in FIGS. 3 and 4 because the Brief Description of FIGS. 3 and 4 recites that "FIG. 3 is a perspective view of a portion of the pup joint of the present invention" and "FIG. 4 is a partial front elevation of the pup joint of the present invention[.]"

B. The Claims

1. November 9, 2001 Amendments

Applicant's November 9, 2001 preliminary amendment included amendments to existing claims 1-3 of the '693 Patent, and also included new claims 4-12. The amendments to claims 1-3 included additional language that was underlined (no deletions), and each of claims 4-12 was underlined. Furthermore, Applicant filed a paper concurrently with the preliminary amendment entitled "Statement of Status of Claims Pursuant to 37 C.F.R. § 1.173(c)," which included a statement that claims 1-3 were "active" and "amended," and that claims 4-12 were "added." Applicant thus submits that the Statement complied with the Rule 173 requirement to identify the "status (*i.e.*, pending or canceled)" of all patent claims and all added claims.

The Statement also included an explanation of the support for (a) the changes to claims 1-3 and (b) new claims 4-12. Therefore, the Statement complied with the Rule 173 requirement for "an explanation of the support in the disclosure of the patent for the changes made to the claims."

For these reasons, the November 9, 2001 amendments have not been repeated in this paper.

2. December 8, 2003 and May 14, 2004 Amendments

On December 8, 2003, Applicant amended original claims 1 and 3, but did not show those amendments relative to issued claims 1 and 3 of the '693 Patent. Applicant also amended claims 5, 7, 9, and 11 (which were added to the application in the November 9, 2001 preliminary amendment), but did not underline the entire text of those claims.

On May 14, 2004, Applicant amended original claims 1 again, but did not show the amendment relative to issued claim 1 of the '693 Patent. Applicant also amended claims 5 and 9, but did not underline the entire text of those claims.

3. The Amendments in This Paper

In the present paper, Applicant has amended claims 1, 3, 5, 7, 9, and 11 by making the amendments to claims 1 and 3 relative to issued claims 1 and 3 of the '693 Patent, and by underlining the entire text of claims 5, 7, 9 and 11.

The status of the claims is: claims 1-12 are pending.

Applicants provide the following **explanation of the support in the disclosure of the '693 Patent for the changes to the claims:** The December 8, 2003 amendment to claim 1, which recited that the claimed retention shoulder “is not removable” from the male sub, is supported by, for example, column 3, lines 28-34 of the '693 Patent, which describes a method of creating a pup joint that results in “a retention shoulder which cannot be removed or otherwise defeated in the field.” Claims 5 and 9 were amended in the same fashion in the December 8, 2003 amendment, and are supported by the same exemplary '693 Patent disclosure.

The December 8, 2003 amendment to claim 3, which recited that the retention shoulder is constructed of a single forging with the length of pipe, the male sub and female sub is supported by, for example, column 3, lines 26-34 of the '693 Patent, which described the method discussed in the preceding paragraph as a “single forging” method. Claims 7 and 11 were amended in the same fashion in the December 8, 2003 amendment, and are supported by the same exemplary '693 Patent disclosure.

The May 14, 2004 amendment to claims 1, 5 and 9 substituted the term “non-removable” for the phrase “and that is not removable” introduced in the December 8, 2003 amendment. This amendment was made only to improve the readability of those claims, and not for any reason relating to patentability. The scope of claims 1, 5 and 9 did not change as a result of the amendment. The amendment was supported by the same exemplary disclosure identified above:

column 3, lines 28-34 of the '693 Patent, which describes a method of creating a pup joint that results in "a retention shoulder which cannot be removed or otherwise defeated in the field."

C. Amendments to the Specification Other than the Drawings and Claims

Applicant added two paragraphs to the specification in the May 14, 2004 amendment. The first was a brief description of new FIG. 6. The second was a paragraph in the Detailed Description section that characterized the content of new FIG. 6.

Applicant has introduced these new paragraphs in this paper by underlining the complete text of each. Exemplary support for the new brief description paragraph of new FIG. 6 is found at column 2, lines 48-51, which explains that the male and female sub of pup joint 110 may be manufactured individually and then threaded onto the ends of pipe 112.

Exemplary support for the new detailed description paragraph of new FIG. 6 is found in FIGS. 3 and 4 themselves, and in the description of those figures in the '693 Patent. It is appropriate to combine the features of the pup joints in FIGS. 3 and 4 as shown in new FIG. 6 because the Brief Description of FIGS. 3 and 4 recites that "FIG. 3 is a perspective view of a portion of the pup joint of the present invention" and "FIG. 4 is a partial front elevation of the pup joint of the present invention[.]"

D. Conclusion

Applicant respectfully submits that the current amendments comply with Rule 173, and that claims 1-12 are in condition for allowance. Should Examiner Nicholson have any questions concerning this application, he is invited to contact the undersigned attorney at (512) 536-3031.

Please date stamp and return the enclosed postcard to evidence receipt of this filing.

Respectfully submitted,



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Date: April 19, 2005